

**ABSTRACT**

A three-dimensional model of a scene is obtained from a plurality of three-dimensional panoramic images of a scene, wherein each three-dimensional panoramic image is derived from a plurality of range images captured from a distinct spatial position. Transformations are determined that align the plurality of three-dimensional panoramic images, and spatial information is integrated from the plurality of three-dimensional panoramic images to form a spatial three-dimensional model of the scene. Finally, intensity and texture information is integrated from the plurality of three-dimensional panoramic images onto the spatial three-dimensional model to form a three-dimensional model of the scene containing both spatial and intensity information.

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